Fundamentals of Mechanical Ventilation for Practicing Intensivists
April 9-11, 2025

Wednesday, April 9, 2025

Module / Time		Lecture Topic	SPEAKER
1.0	8:00-8:20 (20)	Introduction	Burton Lee
1.1	8:20-9:40 (80)	Ohm's Law, Equation of Motion & Alveolar Pressure Learning Objectives: 1) Explain & Apply Ohm's Law 2) Explain & Apply the Equation of Motion 3) Distinguish P_{AW}, PIP, P_{ALV}, P_{PLAT}	Burton Lee
1.2	9:50-11:10 (80)	Natural Decay Equation, Time Constant & Autopeep Learning Objectives: 1) Explain & Apply the Natural Decay Equation 2) Explain the Time Constant & V-time Curve 3) Explain & Assess for Autopeep	Mike Keller
1.3	11:20-12:35 (75)	Test Lung Praxis I – PIP & P_{PLAT} Learning Objectives: 1) Explore Equation of Motion 2) Estimate P_{PLAT} MV Clinical Simulation I (2221 & 2290) Learning Objectives: Blind to the Learner	Mike Keller & Nitin Seam Souvik Chatterjee & Eric Kriner
	12:35-1:20 (45)	Lunch	
1.4	1:20-3:00 (100)	Normal I - Passive Expiration & Putting the Equations Together Learning Objectives: 1) Apply Ohm's Law & Natural Decay Equation to Passive Expiration 2) Draw Normal Expiratory P-time, F-time & V-time Curves	Burton Lee
1.5	3:10-4:10 (60)	Normal II - Pressure Control Breaths Learning Objectives: 1) Apply Ohm's Law to Pressure-Controlled Breaths 2) Draw Normal Inspiratory P-time, F-time & V-time Curves	Souvik Chatterjee
1.6	4:20-5:30 (70)	Test Lung Praxis II –Tau & Autopeep Learning Objectives: 1) Explore Natural Decay Equation & Estimate Tau 2) Assess for Autopeep MV Clinical Simulation II (2240) Learning Objectives: Blind to the Learner	Mike Keller & Nitin Seam Souvik Chatterjee & Eric Kriner

Thursday, April 10, 2025

Module / Time		Lecture Topic	SPEAKER
2.1	8:00-9:45 (105)	Normal III - Volume Control Breaths - Square Wave & Decelerating Breaths Learning Objectives: 1) Apply Ohm's Law to Volume-Controlled Breaths 2) Draw Normal Inspiratory P-time, F-time & V-time Curves	Souvik Chatterjee
2.2	9:55-10:55 (60)	Normal V - Volume Targeted Breaths Learning Objectives: 1) Apply Ohm's Law to Volume-Targeted Breaths 2) Draw Normal Inspiratory P-time, F-time & V-time Curves	Nitin Seam
2.4	11:05-12:35 (90)	Test Lung Praxis III – Normal Waveforms Learning Objectives: 1) Draw Normal V Control, P Control, & V Targeted Breaths 2) Create Low Flow PV Curves MV Clinical Simulation III (2420 & 2480) Learning Objectives: Blind to the Learner	Mike Keller & Nitin Seam Souvik Chatterjee & Eric Kriner
	12:35-1:20 (45)	Lunch	
2.5	1:20-2:20 (60)	Asynchronies of Initiating the Breath Learning Objectives: 1) Recognize and Manage Ineffective Triggering 2) Recognize and Manage Auto-Triggering	Nitin Seam
2.6	2:30-4:20 (110)	Asynchronies of Flow Learning Objectives: 1) Recognize and Manage Flow Starvation 2) Recognize and Manage Flow Excess	Eric Kriner
2.7	4:30-5:30 (60)	Asynchronies of Terminating the Breath Learning Objectives: 1) Recognize and Manage Premature Cycling 2) Recognize and Manage Delayed Cycling 3) Recognize and Manage Reverse Triggering	Mike Keller

Friday, April 11, 2025

Module / Time		Lecture Topic	SPEAKER
3.1	8:00-9:10 (70)	Asynchronies during Expiration Learning Objectives: 1) Recognize and Manage AutoPEEP 2) Recognize and Manage Forced Expiration 3) Recognize and Manage Dynamic Airway Collapse	Eric Kriner
3.2	9:20-10:50 (90)	Test Lung Praxis IV – Waveform Analysis Learning Objectives: Recognize & Manage 1) Ineffective & Auto-Triggering 2) Flow Starvation & Excess 3) Premature & Delayed Cycling, Reverse Triggering 4) Autopeep, Forced Expiration & Dynamic Airway Collapse MV Clinical Simulation IV (2430) Learning Objectives: Blind to the Learner	Mike Keller & Nitin Seam Souvik Chatterjee & Eric Kriner
3.3	11:00-12:15 (75)	Lung Protective Ventilation Strategies – Beyond 6 ml/kg Learning Objectives: 1) Discuss Lung Protective Ventilation Strategy of Limiting V_T, P_{PLAT} & Driving Pressure 2) Review What Can Go Wrong with Lung Protective Ventilation Strategy with P-Controlled, V-Controlled & V-Targeted Breaths	Burton Lee
3.4	12:15-12:30 (15)	Conclusion & Posttest	Burton Lee